

ABSTRACT OF THE DISCLOSURE

There are provided a load sensor that cannot be broken even when applied with a large load, has a simple structure easily designed to be lightweight and compact and can detect a load with a high accuracy, and a legged robot apparatus including the load sensor in each of legs thereof. The robot apparatus includes the load sensors counting more than one and each of which detects, as an external force, a reaction applied when the leg abuts a ground surface. The load sensor (10) includes a diaphragm (11) having a pressure-sensitive portion (11a), an activating member (14) that is applied with an external force, a driving member (17) forming along with the activating member (14) a double structure and which presses the pressure-sensitive portion (11a), and an elastic member (15) that is displaced generally proportionally to the magnitude of an external force applied to the activating member (14) to convey the external force to the driving member (17). The activating member (14) has such a stopper function that when an external force is applied, the activating member (14) abuts a thick portion (11b) of the diaphragm (11) to limit the external force so that the pressure of the driving member (17) is smaller than a predetermined threshold.